

**SYSTEM AND METHOD FOR DYNAMICALLY ALLOCATING SHARED  
MEMORY WITHIN A MULTIPLE FUNCTION DEVICE**

**ABSTRACT OF THE DISCLOSURE**

An apparatus and method that provides dynamic buffer allocation of shared memory within a multiple function integrated circuit. This apparatus includes a processing module and shared memory coupled to the processing module. Shared memory stores operational instructions for the processing module based on the mode of operation. The multiple function integrated circuit identifies active modules operably coupled to the multiple function integrated circuit that require buffered memory. The circuit further determines the buffer requirements for the identified active module(s) and allocates shared memory into buffers for use by the active modules.